

REMARKS

Claim 1 has been amended to include the subject matter of claims 5, 15, 28, 29 and 32. Support for the range of the humidity expansion coefficient and the temperature expansion coefficient may be found the specification as originally filed, for example, page 23, lines 21-23 (lower humidity expansion coefficient) and Example 35 (upper humidity expansion coefficient) and page 24, line 14 (humidity expansion coefficient range).

I. The Rejection under 35 U.S.C. 112

Claims 15, 48 and 49 are rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite.

The original claim language “laminated at least for layers” means the total number of layers of layers B and layers C. Claim 1 has been amended to include the subject matter of claim 15. When adding the subject matter of claim 15 to claim 1, the claim language was clarified. Claims 48 and 49 have been cancelled.

For the above reasons, it is respectfully submitted that Applicants’ claims are clear and definite and it is requested that the rejection under 35 U.S.C. §112 be reconsidered and withdrawn.

II. The Rejection Based on Yamasaki et al. in view of Murooka et al.

Claims 1, 5, 6, 8, 14, 15, 19, 20, 25, 27, 31 and 32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamasaki et al. (US 5,518,817) in view of Murooka et al. (US6,677,031).

Independent claim 1 has been amended to include the subject matter of claims 28 and 29. Claims 28 and 29 were not rejected based on Yamasaki et al. in view of Murooka et al. Therefore, this rejection is moot and reconsideration and withdrawal is respectively requested.

III. The Rejection Based on Yamasaki et al. in view of Murooka et al and JP '008

Claims 7, 21, 26 and 33 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamasaki et al. in view of Murooka et al. and further in view of JP 08-048008 (JP '008).

Claims 41 and 52 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamasaki et al. in view of Murooka et al. and further in views of Kobayashi (US 6,890,471), Funaki et al. (US 5,188,930) and JP '008.

Independent claim 1 has been amended to include the subject matter of claims 28, 29 and 32. Claims 28, 29 and 32 were not rejected based on Yamasaki et al. in view of Murooka et al and JP '008 and were not rejected based on Yamasaki et al. in view of Murooka et al, Kobayashi, Funaki et al and JP '008. Therefore, this rejection is moot and reconsideration and withdrawal is respectively requested.

IV. The Rejection Based on Yamasaki et al. in view of Murooka et al., Kobayashi and Funaki et al.

Claims 16-18, 28-30, 40, 42 and 48-51 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamasaki et al. in view of Murooka et al., Kobayashi and Funaki et al.

Before discussing the art rejection in detail, Applicants present a discussion of Applicants' invention and the cited art.

The present invention concerns magnetic recording medium comprising a thin walled biaxially oriented film excellent in dimensional stability to humidity change. Since the magnetic recording medium of the invention causes less deviation and is excellent in increase of density and capacitance, it is suitable, particularly, as a magnetic recording medium for use in data storage (Applicants' specification, page 6, lines 8-10).

In particular, by the use of the present invention, magnetic recording medium having unexpectedly excellent humidity expansion coefficients in the width direction (under 7×10^{-6} /%RH) comparing the same level of PEN film in the Young's modulus properties are achieved.

This is because the present invention has multilayer structure comprising the aromatic polyester layer and the high temperature polyolefin layer in the claimed volume, at the same time the laminated film is stretched in the claimed range.

On the other hand, it was difficult to reduce humidity expansion coefficient in the width direction under 7×10^{-6} /%RH using traditional PEN film, even if it was stretched highly in the width direction.

(a) US5,518,817 (Yamasaki et al.)

Yamasaki et al. discloses biaxially oriented laminate films comprising at least one layer of syndiotactic polystyrene(sPS) and at least one layer of a thermoplastic resin including polyester, and the film can be used for various uses, including magnetic tapes.

However, Yamasaki et al. is silent as the multilayer film of at least 4 layers.

Also, Yamasaki et al. is silent as the biaxially oriented laminated film having excellent property in the humidity expansion coefficient in the width direction.

(b) US6,677,031 (Murooka et al.)

Murooka et al. discloses multilayer film comprising a first layer of PEN and a second layer of syndiotactic polystyrene.

However, Murooka et al. is silent as to a magnetic recording medium and the properties of the humidity expansion coefficient in the width direction.

(c) US6,890,471 (Kobayashi et al.)

Kobayashi et al. discloses a PEN film for use in a magnetic recording medium. Kobayashi et al. discloses range of the humidity expansion coefficient and the temperature expansion coefficient.

However, Kobayashi et al. is silent as the laminated film including high temperature polyolefin.

That is, the technical idea of Kobayashi et al. is to reduce the value of the humidity expansion coefficient and the temperature expansion coefficient by PEN film with the method of controlling the Young's modulus, although the disclosed range of the humidity expansion coefficient by PEN film is at most 8×10^{-6} to 13×10^{-6} /%RH (Examples 1-3, Comparative Examples 1-3, and Comparative Example 5).

(d) US5,188,930 (Funaki et al.)

Funaki et al. discloses a photographic film of syndiotactic styrene polymer. Therefore, the technical field is different from the magnetic recording medium that of present invention.

Also, Funaki et al. discloses an oriented sPS films having low humidity expansion coefficients, however, Funaki et al. is silent as the humidity expansion coefficient of the laminated film comprising polyester layer and sPS layer.

(e) JP08-048008 (JP '008)

JP '008 discloses a laminated film comprising sPS layer and polyester surface layer.

However, the technical field of JP '008 is a capacitor. And JP '008 is silent as the humidity expansion coefficient in the width direction.

Concerning the Examiner's rejection based on Yamasaki et al., Murooka et al., and Funaki et al., the cited art is silent as the properties of the humidity expansion coefficient when the laminated film comprising the claimed film layer C comprising a polyolefin (b) and a film layer B comprising an aromatic polyester (a) is used as a magnetic recording medium.

Likewise when the polyolefin (b) is a syndiotactic styrene polymer.

While Kobayashi et al. discloses range of the humidity expansion coefficient and the temperature expansion coefficient, Kobayashi et al. only discloses the outer range in connection with the PEN film as mentioned above. The claimed range of the present invention cannot be achieved by PEN film.

Applicants respectfully submit that the polyester series film having the range of humidity expansion coefficient not more than 7×10^{-6} /%RH in the width direction can be achieved for the

first time by the present invention's composition, the laminated structure and the stretched structure as mentioned above. And, unexpectedly, less deviation can be achieved when the film is used as magnetic recording medium.

The laminated film of the present invention which comprising aromatic polyester layer and high temperature polyolefin layer, at the same time having very low humidity expansion coefficient, is not obvious over Yamasaki et al. in view of Murooka et al., Kobayashi et al. and Funaki et al. (alone or in view of JP '008).

For the above reasons, it is respectfully submitted that the subject matter of claims 1, 6-8, 14, 18 and 21 is neither taught by nor made obvious from the disclosures of Yamasaki et al. in view of Murooka et al., Kobayashi et al., Funaki et al. and JP '008, either alone or in combination, and it is requested that the rejections under 35 U.S.C. §103(a) be reconsidered and withdrawn.

V. Conclusion

In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the rejection under 35 U.S.C. §112 and the rejections under 35 U.S.C. §103 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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